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August 1985

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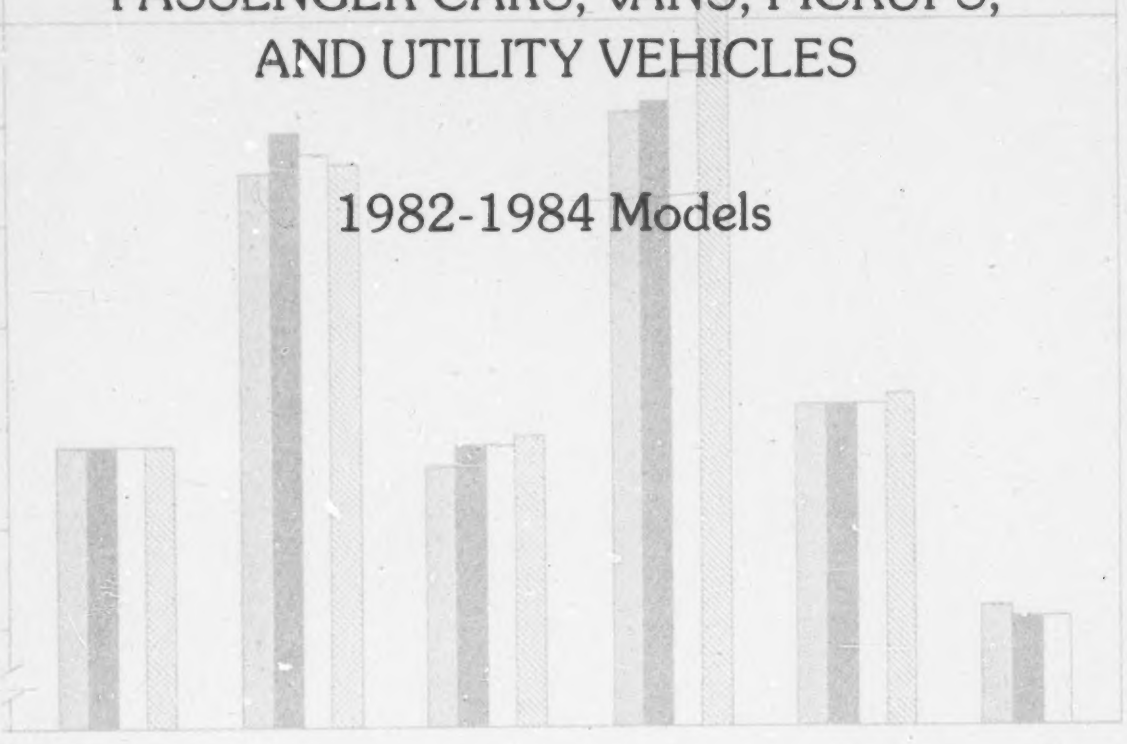
Insurance Losses
Personal Injury Protection Coverages

PASSENGER CARS, VANS, PICKUPS, AND UTILITY VEHICLES

1982-1984 Models



Highway
Loss
Data
Institute

Watergate 600, Washington, D.C. 20037

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Personal Injury Protection Coverages

PASSENGER CARS, VANS, PICKUPS, AND UTILITY VEHICLES

1982-1984 Models

Research Report HLDI I 84-1
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Highway Loss Data Institute
Watergate Six Hundred
Washington, D.C. 20037

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Highway Loss Data Institute

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Summary

This Highway Loss Data Institute (HLDI) report presents the frequency of claims for injuries to occupants of 1982, 1983, and 1984 model year passenger cars, vans, pickup trucks, and utility vehicles. Results are shown separately for all medical claims and for those claims for which the medical losses exceeded $250, $500, and $1,000.

Principal Findings

Passenger Cars

- In general, the vehicles with the best results were large and those with the worst were small.
- Twelve of the 17 cars with the best results (more than 35 percent better than average) were large. Eleven were manufactured in the United States, nine of them by General Motors.
- Eighteen of the 19 cars with the worst results (more than 35 percent worse than average) were small. Both the two-door and four-door versions of the Chevrolet Chevette, Dodge Colt, Plymouth Colt, Pontiac 1000, and Nissan Sentra were among the cars with the worst results. Thirteen were imported models, 12 of them from Japan.
- Among the cars with the best injury experience, the Oldsmobile Custom Cruiser had the lowest overall claim frequency (46 percent below average) and the lowest frequency of claims exceeding $250 (53 percent below average). The midsize Volvo 240 station wagon had the lowest frequency of claims greater than $500 (57 percent below average). The four-door Oldsmobile Delta 88 had the lowest frequency of claims greater than $1,000 (49 percent below average).
- Among the cars with the worst injury loss experience, the Nissan Pulsar had the highest overall injury claim frequency (58 percent above average). The two-door Pontiac 1000 had the highest frequency of claims exceeding $250 (71 percent above average). The two-door Chevrolet Chevette and Nissan Pulsar had the largest frequency of claims exceeding $500 (62 percent above average) and the two-door Chevette also had the largest frequency of claims greater than $1,000 (59 percent above average).

Vans, Pickups, Utility Vehicles

- Vans, pickups, and utility vehicles as a group had better injury results than the average results for passenger cars.
- Among this group, large utility vehicles had the best injury experience, and small utility vehicles had the worst.
- The Chevrolet G-20 Sport Van, GMC G2500 Vandura, Ford E-150 Club Wagon, Jeep Wagoneer, and Chevrolet C10/K10 Suburban had the lowest overall injury claim frequencies. The Toyota standard bed pickup truck had the highest frequency.
- Injury claim frequencies were closely related to vehicle size, with the larger vehicles having lower claim frequencies.

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Introduction

The Highway Loss Data Institute (HLDI) is a nonprofit, public service organization that gathers, processes, and publishes insurance data concerned with human and economic losses associated with motor vehicle use, especially with the ways such losses vary among different kinds of vehicles.

This report compares the frequencies of claims for injuries to occupants of 1982 through 1984 model year passenger cars, vans, pickup trucks, and utility vehicles. In addition to the frequencies of all claims, frequencies are given separately for claims for which the medical payments exceeded $250, $500, and $1,000. The results are given for individual vehicle series as well as for various vehicle groupings based on vehicle size and body style.

In calculating injury claim frequencies, all injuries in a crash-involved car resulting in claims for medical expenses made under personal injury protection insurance coverages are counted as a single claim. A description of these first-party coverages, which principally insure against medical losses to occupants of the insured cars themselves, is given in Appendix A. The data analysis methods used in the preparation of this report are detailed in Appendix B. Definitions are given in Appendix C, and Appendix D contains a complete list of the vehicles that appear in this report. The data used were supplied by 13 insurers: Aetna, Allstate, Fireman's Fund, GEICO, Kemper, Liberty Mutual, Nationwide, Prudential, Safeco, Sentry, State Farm, Travelers, and USAA.

This report is based on injury coverages and injury claims involving 1982 through 1984 models in the period from their introductions through December 1984. It does not include the results for vehicles discontinued prior to the 1984 model year.

It is intended that the dissemination of this and other HLDI reports will contribute to research into ways for reducing vehicle-related damage to people and property, and provide the public with information relating to the differences in the crash damage produced by different kinds of vehicles.

Results and Discussion

This report presents injury claim frequency results for 1982-1984 model year vehicles. Results are presented in two sections: the first summarizes the results for passenger cars and the second for vans, pickup trucks, and utility vehicles. The frequency of all injury claims and the frequencies of claims with medical payments in excess of $250, $500, and $1,000 are shown for those vehicles with sufficient exposure.* The results for the larger medical claims categories indicate the frequency of occurrence of increasingly severe injuries. Each claim frequency result, whether for passenger cars, vans, pickups, or utility vehicles, is presented in relative terms, with 100 representing the claim frequency for *all passenger cars combined* in each claim size category.

The relative injury claims experience of particular vehicles does not change substantially from model year to model year providing that the basic design of the vehicle remains essentially unchanged. For this reason and because substantial amounts of exposure are needed to produce reliable injury claim frequency results, the data for model years 1982 through 1984 were combined for those vehicles with basic designs that remained unchanged. Vehicle series that were discontinued prior to 1984 (such as the Ford Futura and Dodge Mirada, which were both produced only through model year 1983) are not included. Vehicle series that were redesigned in 1984 (such as the Honda Civic and Toyota Corolla) are included in the report for model year 1984 only. Newly introduced vehicles (such as the Renault Alliance in 1983 and Dodge Daytona in 1984) are also included. For each vehicle series and each vehicle subgroup, a separate relative claim frequency was calculated for each model year. The aggregated result for each vehicle series was then obtained by weighting these relative claim frequencies by the applicable exposure for each model year. (For additional explanation of this procedure, see Appendix B.)

Passenger Cars

The total exposure amassed by passenger cars of the three model years included in this report amounted to almost six million insured vehicle years. Table 1 presents the claim frequencies by claim size for each model year. Claim frequencies decreased rapidly with each successively larger medical cost group. The frequency of claims ex-

TABLE 1
Personal Injury Protection Coverages
Claim Frequencies by Model Year and Size of Claim

Model Year	Total Exposure (Insured Vehicle Years)	Claim Frequencies Per 1,000 Insured Vehicle Years			
		All Claims	>$250	>$500	>$1,000
1984	1,168,794	20.2	10.1	7.1	4.7
1983	1,978,973	18.9	9.8	7.1	4.7
1982	2,630,666	17.5	9.4	6.7	4.6

*The exposure thresholds for reporting results were 5,000 insured vehicle years for the all claim results, 10,000 years for the greater than $250 results, 15,000 years for the greater than $500 results, and 25,000 years for the greater than $1,000 results. The results shown in this report were standardized to remove the effects due to differences in the mix of operator age group among different vehicles. Standardizing for this nonvehicle factor ensures that its mix is the same for each result. It should be noted that other nonvehicle factors could vary among different vehicles and that any effects resulting from such factors have not necessarily been eliminated from the results presented in this report. The standardization procedure is described in detail in Appendix B.

ceeding $250 was approximately one-half the overall claim frequency, the frequency of claims exceeding $500 was about one-third the overall frequency, and the frequency of claims greater than $1,000 was approximately one-fourth the overall frequency.

The total dollars paid out, however, were dramatically influenced by the larger claims. For example, claims exceeding $250, although representing about half of all claims, accounted for nearly 96 percent of the total dollars for medical payments. Claims exceeding $500 accounted for 92 percent of the total dollars, and claims over $1,000 accounted for more than 84 percent of the total dollars.

Table 2 summarizes the individual 1982 through 1984 models with the best injury loss experience. Any individual vehicle series with a claim frequency more than 35 percent better (a relative claim frequency of less than 65) than the all-car result for any of the four claim-size categories (i.e., all claims; and claims greater than $250, $500, and $1,000) is listed. The cars are ranked in increasing order of their overall relative claim frequency. Each individual relative claim frequency result that was less than 65 is shown in bold print.

The 17 cars listed in Table 2 had the best injury loss experience among the 182 vehicle series from model years 1982 through 1984 detailed in Table 4. Twelve were large cars, and only three were small and two were midsize. Eleven of the cars were manufactured in the United States, nine of them by General Motors; the other six were European imports. No Japanese imports appeared on the list of cars with the best injury loss results. Most of the vehicles with the best injury loss experience for 1981-1983 passenger cars (HLDI report I83-1) are also listed in this year's report. They are the Oldsmobile Custom Cruiser, four-door Delta 88, four-door Ninety Eight, and

TABLE 2
1982-1984 Passenger Cars With the Best Injury Loss Experience
Relative Injury Claim Frequencies - Personal Injury Protection Coverages

Make and Series	Exposure (Insured Vehicle Years)	Relative Claim Frequencies By Size of Claim			
		All	>$250	>$500	>$1,000
Oldsmobile Custom Cruiser-S.W.	17,154	**54**	**47**	**47**	
Volvo 240-S.W.	20,797	**56**	**53**	**43**	
Mercedes Benz 380SL Coupe	5,371	**57**			
Buick Electra-S.W.	6,341	**59**			
Oldsmobile Delta 88-4 Dr.	97,413	**59**	**55**	**53**	**51**
Mercedes Benz 300SD/380SE	12,669	**60**	**64**		
Buick LeSabre-4 Dr.	65,444	**62**	**61**	**59**	**60**
Oldsmobile Ninety Eight-4 Dr.	58,893	**62**	71	73	67
Chevrolet Corvette*	6,697	**63**			
Dodge Caravan*	6,936	**63**			
Jaguar XJ6	6,548	**63**			
Mercedes Benz 300D	14,452	**64**	**64**		
Oldsmobile Toronado	25,513	**65**	**58**	**62**	**62**
Mercury Grand Marquis-4 Dr.	52,730	**65**	72	68	**62**
Chevrolet Caprice-S.W.	30,939	69	**61**	**60**	**58**
Saab 900-2 Dr.	10,634	70	**63**		
Oldsmobile Cutlass-4 Dr.	63,834	76	72	68	64

* 1984 Models Only

Toronado; four-door Buick LeSabre; Chevrolet Caprice and Volvo 240 station wagon; and Mercedes Benz 300SD/380SE.

The Oldsmobile Custom Cruiser had the lowest overall relative claim frequency (54) and the lowest relative frequency (47) of claims exceeding $250. The midsize Volvo 240 station wagon had the lowest relative frequency (43) of claims greater than $500, and the four-door Oldsmobile Delta 88 had the lowest relative frequency of claims over $1,000 (51).

It should be noted that other vehicle series had lower overall claim frequencies than some of the cars listed in Table 2. For example, *all* of the relative claim frequencies shown for the AMC Eagle 30 station wagon (not listed) were lower than the corresponding results for the four-door Oldsmobile Cutlass (listed); but none of the Eagle's individual results was less than 65. (Because of limited exposure, no result was given for the Eagle for claims greater than $1,000, the category in which the Cutlass's result was 64.)

Table 3 summarizes the 1982 through 1984 models with the worst injury loss experience. Any individual series with a claim frequency that was more than 35 percent worse (a relative claim frequency of more than 135) than the all-car result for any of the claim size categories is listed. Nineteen cars are listed in decreasing order of their overall relative claim frequency and results greater than 135 are shown in bold print.

TABLE 3
1982-1984 Passenger Cars With the Worst Injury Loss Experience
Relative Injury Claim Frequencies - Personal Injury Protection Coverages

Make and Series	Exposure (Insured Vehicle Years)	Relative Claim Frequencies By Size of Claim			
		All	>$250	>$500	>$1,000
Nissan Pulsar**	21,934	**158**	**148**	**162**	
Plymouth Colt-4 Dr.	8,611	**156**			
Mitsubishi Tredia**	5,551	**155**			
Pontiac 1000-2 Dr.	15,234	**155**	**171**	**161**	
Chevrolet Chevette-2 Dr.	66,068	**154**	**163**	**162**	**159**
Mitsubishi Cordia**	5,330	**151**			
Dodge Colt-2 Dr.	18,934	**149**	**157**	**160**	
Plymouth Colt-2 Dr.	16,559	**148**	**159**	**154**	
Toyota Starlet	12,721	**148**	**153**		
Nissan Sentra-4 Dr.	33,594	**145**	**148**	**152**	**158**
Dodge Colt-4 Dr.	10,753	**144**	**164**		
Chevrolet Chevette-4 Dr.	92,752	**143**	**151**	**151**	**151**
Honda Civic CRX*	5,455	**142**			
Isuzu T-Car/I-Mark-4 Dr.	9,121	**140**			
Pontiac 1000-4 Dr.	15,028	**139**	145	135	
Renault Alliance-2 Dr.**	23,631	**138**	132	**137**	
Nissan Sentra-2 Dr.	75,258	**137**	**138**	**136**	129
Mercury Lynx-2 Dr.	34,638	**137**	**136**	134	124
Ford Mustang	81,127	127	129	128	**136**

* 1984 models only
** 1983 and 1984 models only

Eighteen of the 19 cars listed in Table 3 are small vehicles. There were no station wagons/passenger vans and only two sports and specialty cars (the Honda Civic CRX and Ford Mustang) among the cars with the worst injury experience. Both the two-door and four-door versions of the Chevrolet Chevette, Dodge Colt, Plymouth Colt, Pontiac 1000, and Nissan Sentra were among the cars with the worst injury experience. Thirteen of the 19 vehicles in Table 3 are imported models, and all but one of them are imported from Japan. Many of the vehicles listed as having the worst injury loss experience for 1981-1983 passenger cars (HLDI report I83-1) are also listed in Table 3. These vehicles are the two-door Chevrolet Chevette, two-door Dodge and Plymouth Colts, Nissan Pulsar, four-door Nissan Sentra, two-door Pontiac 1000, and Toyota Starlet.

The Nissan Pulsar had the highest overall relative claim frequency (158). The two-door Pontiac 1000 had the highest relative frequency (171) of claims exceeding $250. The Nissan Pulsar and two-door Chevrolet Chevette had the highest relative frequency (162) of claims greater than $500. For vehicles with claims over $1,000 and sufficient exposure available to report a result, the two-door Chevrolet Chevette had the highest relative claim frequency (159).

Table 4 presents relative injury claim frequency results for all of the 1982 through 1984 models with sufficient exposure. Results are shown for individual series and for each car size and body style group. The individual series results in Table 4 are listed within each group in ascending sequence of their overall relative claim frequencies.

The results in Table 4 indicate that, in general, cars with smaller wheelbases had higher injury losses than cars with larger wheelbases. For example, large station wagons and passenger vans as a group had relative claim frequencies that were less than 65 for each of the four claim size categories, whereas, small wagons and vans had relative claim frequencies that were about 95. Table 4 also shows that there were large differences in the loss experience of cars in the same car size and body style categories. For example, the overall relative claim frequencies for small two-door models ranged from a low of 70 for the Saab 900 to a high of 158 for the Nissan Pulsar, which is more than a two-fold difference.

(text continues on page 13)

TABLE 4
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1982-1984 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	SIZE OF CLAIM ALL	>$250	>$500	>$1000
	ALL	**ALL**	**5778433**	**100**	**100**	**100**	**100**
			SMALL CARS				
	TWO-DOOR MODELS		**903541**	**128**	**128**	**128**	**125**
82-84	SAAB	900	10634	70	63		
82-84	HONDA	ACCORD	73841	102	100	97	95
82-84	NISSAN	STANZA	14097	105	107		
82-84	VOLKSWAGEN	RABBIT	35428	106	101	104	103
83-84	MAZDA	626	6442	106			
82-84	VOLKSWAGEN	SCIROCCO	10921	108	92		
82-84	MAZDA	GLC	20131	110	116	120	
83-84	HONDA	PRELUDE	16025	114	114	119	
84	HONDA	CIVIC	7335	115			
82-84	SUBARU	DL/GL	16365	117	125	123	
82-84	RENAULT	FUEGO	9460	118			
82-84	TOYOTA	CELICA	99190	120	125	125	124
84	DODGE	DAYTONA	5385	122			
82-84	SUBARU	HATCHBACK	14516	125	109		
84	CHRYSLER	LASER	7157	128			
82-84	PLYMOUTH	HORIZON	39273	128	124	123	122
83-84	TOYOTA	TERCEL	26189	129	126	121	125
84	RENAULT	ENCORE	6121	130			
82-84	FORD	ESCORT	131418	130	131	133	127
82-84	DODGE	CHARGER	37781	132	127	124	120
82-84	MERCURY	LYNX	34638	137	136	134	124
82-84	NISSAN	SENTRA	75258	137	138	136	129
83-84	RENAULT	ALLIANCE	23631	138	132	137	
82-84	TOYOTA	STARLET	12721	148	153		
82-84	PLYMOUTH	COLT	16559	148	159	154	
82-84	DODGE	COLT	18934	149	157	160	
83-84	MITSUBISHI	CORDIA	5330	151			
82-84	CHEVROLET	CHEVETTE	66068	154	163	162	159
82-84	PONTIAC	1000	15234	155	171	161	
83-84	NISSAN	PULSAR	21934	158	148	162	
	FOUR-DOOR MODELS		**723814**	**117**	**115**	**114**	**114**
82-84	SAAB	900	9548	71			
82-84	HONDA	ACCORD	118807	89	83	85	86
82-84	VOLKSWAGEN	RABBIT	36750	92	80	75	75
82-84	VOLKSWAGEN	JETTA	15540	97	90	91	
83-84	MAZDA	626	16956	100	85	85	
82-84	NISSAN	STANZA	44382	107	96	93	87

(See footnotes on page 12)

TABLE 4
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1982-1984 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	ALL	SIZE OF CLAIM >$250	>$500	>$1000
	FOUR-DOOR MODELS (CONTD)						
82-84	DODGE	OMNI	35160	114	111	102	102
83-84	RENAULT	ALLIANCE	30436	114	115	117	116
82-84	FORD	ESCORT	79561	117	115	112	110
82-84	PLYMOUTH	HORIZON	43023	118	113	104	102
82-84	MERCURY	LYNX	20939	120	115	116	
84	TOYOTA	COROLLA	15101	122	127	131	
82-84	SUBARU	DL/GL SEDAN	29863	125	125	130	132
83-84	TOYOTA	TERCEL	19045	127	116	122	
82-84	MAZDA	GLC	23226	130	129	120	
82-84	PONTIAC	1000	15028	139	145	135	
82-84	ISUZU	T-CAR/I-MARK	9121	140			
82-84	CHEVROLET	CHEVETTE	92752	143	151	151	151
82-84	DODGE	COLT	10753	144	164		
82-84	NISSAN	SENTRA	33594	145	148	152	158
83-84	MITSUBISHI	TREDIA	5551	155			
82-84	PLYMOUTH	COLT	8611	156			
	STATION WAGONS/PASSENGER VANS		**211615**	**97**	**95**	**95**	**95**
82-84	VOLKSWAGEN	VANAGON	5427	73			
82-84	MERCURY	LYNX	14690	83	83		
83-84	TOYOTA	TERCEL 4WD	13738	91	88		
82-84	FORD	ESCORT	66657	95	92	92	92
82-84	SUBARU	DL/GL 4WD	29453	98	101	101	95
82-84	SUBARU	DL/GL	37940	100	97	95	101
82-84	NISSAN	SENTRA	29424	108	110	109	105
	SPORTS & SPECIALTY		**160979**	**106**	**106**	**109**	**110**
82-84	MERCEDES	380SL COUPE	5371	57			
84	CHEVROLET	CORVETTE	6697	63			
83-84	PORSCHE	944 COUPE	6196	71			
84	NISSAN	300ZX	5652	100			
82-84	VOLKSWAGEN	RABBIT CONVERTIBLE	5980	102			
82-84	MAZDA	RX-7	47977	104	101	101	101
84	PONTIAC	FIERO	13627	119	118		
82-84	FORD	EXP	51872	124	128	129	132
84	HONDA	CIVIC CRX	5455	142			

(See footnotes on page 12)

TABLE 4
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1982-1984 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	ALL	SIZE OF CLAIM >$250	>$500	>$1000
			MIDSIZE CARS				
	TWO-DOOR MODELS		**891387**	**101**	**101**	**102**	**103**
82-84	OLDSMOBILE	CUTLASS	155705	88	91	93	96
82-84	BUICK	REGAL	125814	90	91	93	98
82-84	OLDSMOBILE	CIERA	23665	91	89	82	
82-84	PONTIAC	GRAND PRIX	74522	92	96	98	103
82-84	OLDSMOBILE	OMEGA	13081	92	91		
82-84	PONTIAC	6000	8835	94			
82-84	BUICK	SKYLARK	22735	94	90	89	
82-84	CHEVROLET	MONTE CARLO	82551	98	107	111	112
82-84	CHRYSLER	LE BARON	23291	99	95	99	
83-84	FORD	THUNDERBIRD	41382	100	98	98	105
82-84	BUICK	CENTURY	13236	100	94		
82-84	VOLVO	240	8982	104			
82-84	DODGE	400/600	13980	105	104		
82-84	CHEVROLET	CELEBRITY	16016	107	107	101	
82-84	DODGE	ARIES	18509	109	100	100	
83-84	MERCURY	COUGAR	29144	109	113	122	120
82-84	CHEVROLET	CITATION	20378	111	111	102	
82-84	PONTIAC	PHOENIX	9637	112			
84	FORD	TEMPO	11821	118	117		
82-84	PONTIAC	2000	39720	118	109	103	109
82-84	PLYMOUTH	RELIANT	23447	119	115	115	
82-84	BUICK	SKYHAWK	28642	123	121	116	114
82-84	OLDSMOBILE	FIRENZA	10724	123	114		
82-84	CHEVROLET	CAVALIER	67979	126	127	126	134
	FOUR-DOOR MODELS		**1186999**	**94**	**93**	**92**	**92**
83-84	CHRYSLER	E CLASS	14567	75	81		
82-84	OLDSMOBILE	CUTLASS	63834	76	72	68	64
82-84	BUICK	REGAL	49752	79	75	74	69
82-84	PONTIAC	BONNEVILLE	51606	80	78	76	81
84	MERCURY	TOPAZ	7517	81			
82-84	PONTIAC	6000	44355	85	83	86	90
83-84	MERCURY	MARQUIS	20654	86	91	91	
83-84	DODGE	600	13923	86	91		
82-84	OLDSMOBILE	CIERA	82723	86	82	80	82
83-84	CHRYSLER	NEW YORKER	17478	87	90	98	
82-84	BUICK	CENTURY	74618	87	85	86	86
82-84	CHRYSLER	LE BARON	36302	88	86	83	80

(See footnotes on page 12)

TABLE 4
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1982-1984 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	SIZE OF CLAIM ALL	>$250	>$500	>$1000
	FOUR-DOOR MODELS (CONTD)						
82-84	VOLVO	240	39955	89	89	93	88
83-84	FORD	LTD	33107	89	84	86	82
82-84	PEUGEOT	505	8994	91			
83-84	TOYOTA	CAMRY	22674	91	86	89	
82-84	TOYOTA	CRESSIDA	30158	92	103	111	110
82-84	BUICK	SKYLARK	61240	92	88	87	85
82-84	CADILLAC	CIMARRON	20657	93	102	105	
82-84	CHEVROLET	CELEBRITY	68747	94	91	89	88
82-84	CHEVROLET	CITATION	53679	94	93	91	89
82-84	AUDI	4000	11711	96	84		
82-84	OLDSMOBILE	OMEGA	31723	98	95	92	84
84	FORD	TEMPO	27451	100	102	101	107
82-84	PONTIAC	PHOENIX	12906	101	92		
82-84	PONTIAC	2000	32322	109	103	102	105
82-84	DODGE	ARIES	43267	111	110	110	112
82-84	PLYMOUTH	RELIANT	52220	112	104	97	90
82-84	CHEVROLET	CAVALIER	73217	112	119	119	115
82-84	OLDSMOBILE	FIRENZA	13449	113	99		
82-84	BUICK	SKYHAWK	18378	113	108	101	
82-84	NISSAN	MAXIMA	47163	121	123	129	130
	STATION WAGONS/PASSENGER VANS		**222911**	**85**	**77**	**73**	**72**
82-84	VOLVO	240	20797	56	53	43	
82-84	AMERICAN	EAGLE 30	15426	69	68	65	
83-84	FORD	LTD	14944	76	72		
83-84	OLDSMOBILE	FIRENZA	5117	80			
84	CHEVROLET	CELEBRITY	6175	83			
82-84	DODGE	ARIES	27280	91	83	80	83
82-84	PLYMOUTH	RELIANT	32263	93	82	77	71
82-84	PONTIAC	2000	11524	94	79		
82-84	CHEVROLET	CAVALIER	46266	94	90	88	86
82-84	CHRYSLER	LE BARON	9179	95			
82-84	NISSAN	MAXIMA	10290	100	89		
	SPORTS & SPECIALTY		**405214**	**109**	**111**	**113**	**116**
82-84	LINCOLN	CONTINENTAL	12292	72	75		
82-84	BMW	528e/533i	8210	74			
84	AUDI	5000 4D	6827	79			
84	BMW	318i/325e	9014	81			

(See footnotes on page 12)

TABLE 4
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1982-1984 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	ALL	SIZE OF CLAIM >$250	>$500	>$1000
	SPORTS & SPECIALTY (CONTD)						
82-84	CHRYSLER	LE BARON CONVERTIBLE	9620	87			
83-84	FORD	MUSTANG CONVERTIBLE	5786	98			
82-84	TOYOTA	CELICA SUPRA	23757	102	104	106	
82-84	PONTIAC	FIREBIRD	78802	107	108	108	115
82-84	MERCURY	CAPRI	18410	114	110	109	
82-84	CHEVROLET	CAMARO	134784	116	120	123	126
82-84	FORD	MUSTANG	81127	127	129	128	136
	LARGE CARS						
82-84	**TWO-DOOR MODELS**		**110521**	**71**	**79**	**81**	**82**
82-84	FORD	CROWN VICTORIA	9920	65			
82-84	BUICK	LE SABRE	23104	70	84	90	
82-84	OLDSMOBILE	DELTA 88	43861	70	74	76	76
82-84	OLDSMOBILE	NINETY EIGHT	10316	71	72		
82-84	MERCURY	GRAND MARQUIS	9443	76			
82-84	CHEVROLET	CAPRICE	7198	77			
82-84	BUICK	ELECTRA	6678	81			
82-84	**FOUR-DOOR MODELS**		**536964**	**66**	**68**	**67**	**67**
82-84	OLDSMOBILE	DELTA 88	97413	59	55	53	51
82-84	BUICK	LE SABRE	65444	62	61	59	60
82-84	OLDSMOBILE	NINETY EIGHT	58893	62	71	73	67
82-84	MERCURY	GRAND MARQUIS	52730	65	72	68	62
82-84	BUICK	ELECTRA	38538	66	66	67	72
82-84	CHEVROLET	CAPRICE	78397	68	70	69	69
82-84	FORD	CROWN VICTORIA	49704	68	76	78	80
82-84	CHRYSLER	NEW YORKER 5TH AVE	58816	69	74	77	77
82-84	DODGE	DIPLOMAT	7384	72			
82-84	CHEVROLET	IMPALA	19863	79	77	79	
82-84	PLYMOUTH	GRAN FURY	5670	101			

(See footnotes on page 12)

TABLE 4
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1982-1984 PASSENGER CARS

MODEL YEARS	MAKE	SERIES	EXPOSURE	SIZE OF CLAIM ALL	>$250	>$500	>$1000
82-84	**STATION WAGONS/PASSENGER VANS**		**92347**	**64**	**59**	**59**	**58**
82-84	OLDSMOBILE	CUSTOM CRUISER	17154	54	47	47	
82-84	BUICK	ELECTRA	6341	59			
84	DODGE	CARAVAN	6936	63			
84	PLYMOUTH	VOYAGER	6954	67			
82-84	CHEVROLET	CAPRICE	30939	69	61	60	58
82-84	MERCURY	GRAND MARQUIS	8126	69			
82-84	FORD	CROWN VICTORIA	13193	70	69		
82-84	**SPORTS & SPECIALTY**		**332142**	**71**	**76**	**81**	**85**
82-84	MERCEDES	300SD/380SE	12669	60	64		
82-84	JAGUAR	XJ6	6548	63			
82-84	MERCEDES	300D	14452	64	64		
82-84	OLDSMOBILE	TORONADO	25513	65	58	62	62
82-84	CADILLAC	DE VILLE 4D	53025	67	75	84	88
82-84	CADILLAC	ELDORADO	45826	71	75	78	85
82-84	LINCOLN	TOWN CAR	28308	72	80	84	85
82-84	BUICK	RIVIERA	36706	73	76	83	86
82-84	CADILLAC	BROUGHAM 4D	23482	75	80	90	
82-84	CADILLAC	SEVILLE	18443	76	80	87	
82-84	CADILLAC	DE VILLE 2D	53592	81	91	95	96

Footnotes for Table 4

- **Results Standardized to the Distribution:**

  Youthful Operator - 10%
  No Youthful Operator - 90%

- **Miminum Exposure Requirements for Reporting:**

  All Claims - 5,000 Vehicle Years
  Claims > $250 - 10,000 Vehicle Years
  Claims > $500 - 15,000 Vehicle Years
  Claims >$1000 - 25,000 Vehicle Years

Vans, Pickups, and Utility Vehicles

This section presents injury claim frequency results for 1982-1984 model year vans, pickups, and utility vehicles. The results for pickups are presented for small and standard pickups. Small pickups are defined as those with curb weight of less than 3,200 pounds. The utility vehicle results are divided into three wheelbase size groups: Small utility vehicles are those with wheelbases less than 100 inches, intermediate utility vehicles are those with wheelbases in the range 100 to 120 inches, and large utility vehicles as those with wheelbases exceeding 120 inches.

The results for vans, pickups, and utility vehicles are presented in relative terms with the value 100 corresponding to the result for *all passenger cars* combined in each claim size category. Thus, the value 58 for the overall relative claim frequency of all 1982-1984 model year vans indicates a claim frequency result that was 42 percent better than the result for all 1982-1984 model year passenger cars.

The total exposure for vans, pickups, and utility vehicles represented in the three model years included in this report amounted to more than 1.1 million insured vehicle years. Figure 1 displays the results by vehicle group and by size of claim. The best claim frequency results were for the large utility vehicle group. (The Chevrolet C10/K10 Suburban (1/2T) accounted for nearly 60 percent of the exposure for this vehicle group.) Small utility vehicles had the highest claim frequency results. (The Ford Bronco II and Jeep CJ-7 contributed over 98 percent of this vehicle group's exposure.)

Table 5 presents relative injury claim frequency results for all of the 1982 through 1984 model year vans, pickups, and utility vehicles with sufficient exposure. Results are shown for individual series and for each vehicle group. Within each vehicle group, the individual series are listed in ascending sequence of their overall relative claim frequencies.

As Table 5 shows, the vehicles with the lowest overall injury claim frequencies were the Chevrolet G-20 Sportvan (40), GMC G2500 Vandura (44), and the Ford E-150 Club Wagon (46), all of which are vans; the Chevrolet C10/K10 Suburban (42), a large utility vehicle; and Jeep Wagoneer (46), an intermediate utility vehicle. The Toyota standard bed pickup had the highest claim frequency.

For pickup trucks and utility vehicles, there was a very definite relationship between vehicle size and injury claim frequencies. Every injury claim frequency result reported for standard pickups was lower than any reported for small pickups. Similarly, injury claim frequency results reported for utility vehicles decreased as vehicle size increased.

FIGURE 1
Personal Injury Protection Coverages
Relative Claim Frequencies
1982-1984 Model Year Vans, Pickups, and Utility Vehicles

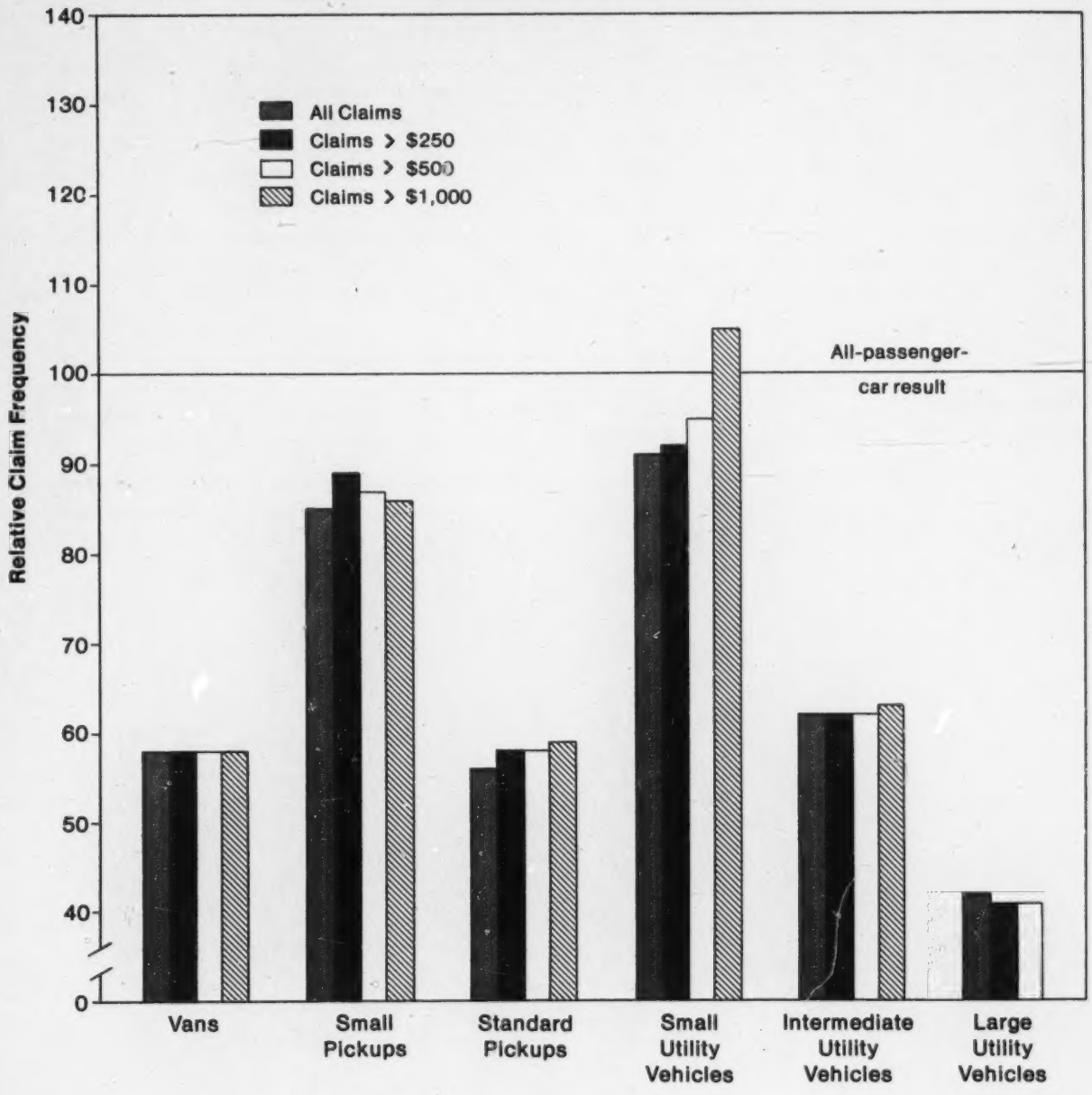

TABLE 5
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1982-1984 VANS, PICKUPS, AND UTILITY VEHICLES

MODEL YEARS	MAKE	SERIES	EXPOSURE	ALL	SIZE OF CLAIM >$250	>$500	>$1000
		VANS					
82-84	**ALL VANS**		**178140**	**58**	**58**	**58**	**58**
82-84	CHEVROLET	G20 SPORTVAN (3/4T)	8997	40			
82-84	GMC	G2500 VANDURA (3/4T)	9197	44			
82-84	FORD	E-150 CLUB WAGON (1/2-3/4T)	11175	46	43		
82-84	FORD	E-150 ECONOLINE (1/2-3/4T)	42999	55	55	58	59
82-84	DODGE	B250 (3/4T)	24716	56	61	63	
82-84	CHEVROLET	G20 CHEVYVAN (3/4T)	32252	57	55	58	59
82-84	CHEVROLET	G10 CHEVYVAN (1/2T)	13305	70	69		
82-84	DODGE	B150 (1/2T)	26639	74	70	66	72
		PICKUPS					
82-84	**SMALL PICKUPS**		**401383**	**85**	**89**	**87**	**86**
82-84	MAZDA	LONG BED	12767	71	78		
82-84	CHEVROLET	S10	93576	76	78	73	72
82-84	GMC	S15	18964	78	74	70	
83-84	FORD	RANGER	66355	81	87	82	83
82-84	NISSAN	KING CAB	38037	82	82	86	94
82-84	MAZDA	STANDARD BED	18529	84	87	89	
82-84	ISUZU	STANDARD BED	6047	85			
82-84	TOYOTA	LONG BED (1/2T)	37748	88	99	97	93
82-84	NISSAN	STANDARD BED	26828	88	86	83	81
82-84	DODGE	RAMPAGE	6511	90			
82-84	DODGE	D-50	15255	93	93	85	
82-84	ISUZU	LONG BED	5167	99			
82-84	TOYOTA	STANDARD BED	30060	110	114	121	117
82-84	**STANDARD PICKUPS**		**354518**	**56**	**58**	**58**	**59**
82-84	CHEVROLET	C20/K20 (3/4T)	21487	54	59	58	
82-84	FORD	F-250 (3/4T)	27051	54	54	58	57
82-84	GMC	C2500/K2500 (3/4T)	6572	54			
82-84	FORD	F-150 (1/2-3/4T)	104590	55	57	57	57
82-84	CHEVROLET	C10/K10 (1/2T)	108328	56	56	55	56
82-84	CHEVROLET	EL CAMINO	11492	58	56		
82-84	DODGE	D150/W150 (1/2T)	38236	59	62	63	60
82-84	GMC	C1500/K1500 (1/2T)	29891	60	68	67	67

(See footnotes on page 14)

TABLE 5
RELATIVE CLAIM FREQUENCY BY SIZE OF CLAIM
PERSONAL INJURY PROTECTION COVERAGES - 1982-1984 VANS, PICKUPS, AND UTILITY VEHICLES

MODEL YEARS	MAKE	SERIES	EXPOSURE	SIZE OF CLAIM ALL	>$250	>$500	>$1000
		UTILITY VEHICLES					
82-84	**SMALL UTILITY VEHICLES**		**42762**	**91**	**92**	**95**	**105**
84	FORD	BRONCO II	19629	85	90	88	
82-84	JEEP	CJ-7	22616	97	95	102	
82-84	**INTERMEDIATE UTILITY VEHICLES**		**112993**	**62**	**62**	**62**	**63**
82-84	JEEP	WAGONEER	9595	46			
82-84	CHEVROLET	C10/K10 BLAZER (1/2T)	16838	52	59	57	
82-84	JEEP	CHEROKEE	10009	59	55		
82-84	FORD	BRONCO	27114	62	66	73	74
82-84	DODGE	AD150/AW150 (1/2T)	11592	62	57		
83-84	CHEVROLET	S10 BLAZER	24977	79	79	80	
82-84	**LARGE UTILITY VEHICLES**		**19376**	**42**	**41**	**41**	
82-84	CHEVROLET	C10/K10 SUBURBAN (1/2T)	11288	42	38		

Footnotes for Table 5

- **Results Standardized to the Distribution:**

  Youthful Operator - 10%
  No Youthful Operator - 90%

- **Miminum Exposure Requirements for Reporting:**

  All Claims - 5,000 Vehicle Years
  Claims > $250 - 10,000 Vehicle Years
  Claims > $500 - 15,000 Vehicle Years
  Claims >$1000 - 25,000 Vehicle Years

Appendix A
Specifications of Injury Coverages

Personal Injury Protection (PIP) Coverages

Personal injury protection coverages provide first-party insurance against medical and other types of losses in "no-fault" states.

The personal injury protection coverages reported in this study were based on data from the 19 states and the District of Columbia listed below.

Personal Injury Protection (PIP) Coverages States Included:

Colorado	Michigan
Connecticut	Minnesota
Delaware	New Jersey
District of Columbia	New York
Florida	North Dakota
Georgia	Oregon
Hawaii	Pennsylvania
Kansas	South Carolina
Kentucky	Texas
Maryland	Utah

Appendix B
Method of Data Analysis

Personal Injury Protection Coverages

Results in this report are based on "personal injury protection" (PIP) coverages that are provided in so-called no-fault states. These coverages were selected because they provide medical expense reimbursement to injured occupants of the insured vehicle.

Use of PIP insurance data to identify crashes involving injury has certain limitations because these data cannot provide information on all occupant injuries. This occurs when claims for injury costs are not made under PIP coverages because of the availability of other sources of medical expense reimbursements, such as bodily injury liability and/or health insurance coverages. Consequently, PIP claim frequencies do not include all of the crashes involving injury. This limitation should not distort comparisons among different vehicles.

Vehicle Description and Identification

The Vehicle Identification Numbers (VINs) of most new automobiles sold in the United States are individually unique numbers that contain, in coded form, detailed information as to each vehicle's make, model year, series,* and other distinguishing characteristics.

The very specific vehicle types for which results are presented in this report were derived from the VINs of the individual automobiles.

Only data with valid VINs were used for this report. Each VIN was decoded into a set of specific characteristics. For the purposes of this report the vehicle characteristics of primary concern were make, model year, series, body style, and wheelbase.

Exposure

Exposure, in terms of insured vehicle years, was computed for each individual vehicle from the coverage data. The total number of insured vehicle years for each vehicle series was then obtained by accumulating the exposure for all of the individual vehicles of that vehicle series.

For each vehicle series, the exposure was also computed for each operator age group — youthful operators and no youthful operators.*

Claim Frequency

Both pending and paid claims for an individual vehicle were first matched with its corresponding coverage data to ensure that the crash had occurred within an appropriate period of coverage for that vehicle. In every instance in which multiple claims were made for the same crash — e.g., when more than one occupant of the car incurred medical expenses — the claims were treated as a single injury claim in the calculation of claim frequencies. It should be noted that some medical expenses can sometimes be incurred even though the occupants are not injured. This can occur, for example, when precautionary medical examinations are undertaken even though no injuries are apparent or, in fact, found.

All injury claims involving medical expense reimbursements were used, together with the corresponding exposure, to compute the claim frequencies in terms of the number of claims per 1,000 insured vehicle years. The overall claim frequency results were computed using both paid and pending claims. In addition to the overall claim frequency results, separate claim frequency results were computed for claims in which the medical losses exceeded $250, $500, and $1,000. The latter three results provide indications of the extent to which particular cars are over- or under-involved in crashes resulting in more significant injuries. Claims involving nonmedical losses only and claims settled without payments were not used. Thus, the claim frequencies represent the number of crashes per 1,000 insured vehicle years in which one or more injuries occurred resulting in medical expense claim payments under PIP insurance coverages.

*See Appendix C for definitions.

Standardization

The losses for different vehicles can vary substantially in relation to certain nonvehicle factors. One important factor with which claim frequency varies is the operator age group, and the mix of operator ages can vary considerably among different vehicle types — so considerably that it could distort comparisons of results between vehicles if not taken into account.

Youthful operators have higher insurance claim frequencies than older drivers. Thus, if two vehicle types have different proportions of youthful operators, this difference, if not taken into consideration, would be sufficient to bias comparisons. To remove this effect, the results for each vehicle type were weighted, using the values shown below, to produce a weighted average of the actual results for each operator age group. In this way the results for each vehicle type are based on the same mix, or distribution, of exposure for the two operator age groups.

Because the same weights are used for each vehicle type, the effects due to operator age group are present in equal amounts in the standardized results for each vehicle type. Therefore, to the extent that the age distributions within operator age group do not vary substantially for different vehicles, these effects can no longer bias comparisons among vehicles.

This standardization procedure is widely used in vital health statistics.* The basic principle of this standardization procedure is the introduction of a standard distribution of exposure for the different operator age groups.

Operator Age Group Weights

Youthful Operator	No Youthful Operator	Combined
0.1	0.9	1.0

Mathematical Procedures

This section describes, and illustrates with an example, the mathematical calculations performed in applying the standardization procedure to the injury loss information used for this report.

For a particular vehicle series (or group of vehicles), let C_i represent the total number of claims (paid and unpaid) and let E_i represent the total number of insured vehicle years of exposure, where

$i = y$ means that the classification code assigned to the vehicle indicates youthful operator, and

$i = n$ means that the classification code assigned to the vehicle indicates no youthful operator.

Thus, youthful and no youthful operator claim frequencies (f_y and f_n, respectively), in terms of the number of claims per 1,000 insured vehicle years, are calculated as

$$f_y = (C_y/E_y) \times 1{,}000, \text{ and } f_n = (C_n/E_n) \times 1{,}000 .$$

The above claim frequencies are then combined using the previously cited operator age group weights to obtain the standardized claim frequency (f) as follows: $f = (.1)f_y + (.9)f_n$.

*For example, see Armitage, P., *Statistical Methods in Medical Research*, Wiley, New York, 1971.

Example: 1984 Four-Door Oldsmobile Delta 88

Number of Claims by Operator Age Groups		Exposure By Operator Age Groups	
Youthful	No Youthful	Youthful	No Youthful
$C_y = 11$	$C_n = 228$	$E_y = 611.28$	$E_n = 18613.59$

Thus, the youthful and no youthful operator claim frequencies are:

$$f_y = (11/611.28) \times 1{,}000 = 17.9950,$$

and

$$f_n = (228/18613.59) \times 1{,}000 = 12.2491 .$$

The standardized claim frequency is calculated as follows:

$$f = (.1)f_y + (.9)f_n = (.1)(17.9950) + (.9)(12.2491) = 12.8237 .$$

Thus, the standardized claim frequency for the 1984 four-door Oldsmobile Delta 88 is 12.8 claims per 1,000 insured vehicle years of exposure.

Exposure Threshold For Reporting Results

A threshold of 5,000 insured vehicle years of exposure was selected for reporting the overall claim frequency results for vehicle groups and individual vehicle series. Consequently, no results are presented in this report for any of the vehicle series with smaller amounts of exposure. In addition, different thresholds were used to determine whether the claim frequency results for medical losses exceeding the specified dollar amounts were published. In order for the claim frequency results for medical losses exceeding $250 to be published, at least 10,000 insured years of exposure were required; for medical losses of greater than $500, the minimum exposure was 15,000; and for medical losses exceeding $1,000, the minimum exposure was 25,000 insured vehicle years.

It should be kept in mind that, in general, the greater the exposure associated with a reported claim frequency, the more confidence can be placed in it.

Combining Results for More Than One Model Year

The relative injury loss experience of particular vehicles does not change substantially from model year to model year providing that the basic design of the vehicle remains essentially unchanged. For this reason and because substantial amounts of exposure are needed to provide reliable injury claim frequency results, the data for model years 1982 through 1984 were combined for those vehicles with unchanged basic designs.

The aggregated model year result (R) for each vehicle series (i) was obtained by weighting the relative claim frequency for each model year (j) by the applicable exposure for each model year; that is,

$$R_i = \frac{\sum exp_{ij} \; \frac{f_{ij}}{F_j}}{\sum exp_{ij}} \cdot 100$$

where exp_{ij} = exposure for vehicle i for model year j,

f_{ij} = standardized claim frequency for vehicle i for model year j, and

and F_j = standardized claim frequency for all passenger cars for model year j.

Example: Four-Door Oldsmobile Delta 88

	1984	1983	1982
Exposure (exp)	19,225	35,596	42,592
Claim Frequency (f)	12.8	10.8	10.2
Claim Frequency (F) - all cars	20.2	18.9	17.5

$$\text{Result} = \frac{19{,}225\left(\frac{12.8}{20.2}\right) + 35{,}596\left(\frac{10.8}{18.9}\right) + 42{,}592\left(\frac{10.2}{17.5}\right)}{19{,}225 + 35{,}596 + 42{,}592} \cdot 100 = 59.$$

Appendix C
Definitions

Claim Frequency - The number of claims for a group of vehicles, divided by the exposure for that group; expressed as claims per one thousand insured vehicle years.

Exposure - The time interval an individual vehicle is insured. Exposure for a group of vehicles is expressed in units of insured vehicle years.

First-Party Coverage - An insurance coverage under which the policyholder collects compensation for his losses from his own insurer regardless of fault.

No-Fault Auto Insurance - An auto insurance plan in which each driver/owner accepts financial responsibility for some or all losses sustained by himself, pedestrians hit by him, and occupants of his own vehicle in return for which he enjoys some immunity from liability for losses to third-party persons.

Operator Age Group - The factor that distinguishes those vehicles with a youthful rated driver from those vehicles without a youthful rated driver (see Youthful Operator).

Personal Injury Protection (PIP) Coverage - First-party no-fault coverage in which an insurer pays, within the specified limits, the medical, hospital, and other expenses of the insured, others in his vehicle, and pedestrians struck by him.

Rated Driver - The driver who, for insurance purposes, is considered to represent the greatest loss potential for the insured vehicle.

Vehicle Classifications - There are four vehicle classes, defined as follows:

1. ***Passenger Cars*** - There are four major body style groupings of passenger cars - regular two-door models, regular four-door models, station wagons and passenger vans, and sports and specialty models. Sports and specialty models include all two-seater cars, all convertibles, all midsize and large cars with two or fewer designated rear seating positions, and all luxury cars. Each body style group is further divided into classes based on wheelbase size (rounded to the nearest inch) defined as follows:

   Small - Cars with wheelbases less than or equal to 99 inches.

   Midsize - Cars with wheelbases greater than 99 inches and less than or equal to 109 inches.

   Large - Vehicles with wheelbases greater than 109 inches.

2. ***Vans*** - Fully enclosed vehicles with either no hood or a very short hood, in which the engine is placed at least 50 percent behind the windshield. The driver's position is usually well forward, nearly beside the engine, usually within the forward 25 percent of the wheelbase. These vehicles are designed for cargo transport and are equipped with a right-side cargo access door and rear doors. The cargo area is not separated from the passenger area - both are enclosed under the same roof.

3. ***Pickups*** - Cargo-carrying vehicles, usually on a truck chassis, with an enclosed cab and a separate open cargo area. The open cargo area generally is a box with raised sides with an opening tailgate. There are also a small number of auto pickups that are similar to regular pickups except that they are built on a passenger car chassis. Pickups are further divided into two subgroups based on curb weight - small pickups (less than 3,000 pounds) and standard pickups (3,000 pounds or more).

4. ***Utility Vehicles*** - Vehicles built on a heavy-duty chassis capable of off-road use. They are of conventional construction with the driver behind the engine. The cargo and passenger areas are integral with the driver area. Many of these vehicles are equipped with soft or removable tops. Frequently, these vehicles are

equipped with four-wheel drive. Utility vehicles are further divided into three subgroups based on wheelbase size - small utility vehicles (less than 100 inches), intermediate utility vehicles (from 100 to 120 inches), and large utility vehicles (greater than 120 inches).

Vehicle Identification Number (VIN) - A code, variously comprising both numbers and letters, normally 8 to 17 characters in length, assigned to each vehicle by its manufacturer. The VIN uniquely identifies the vehicle within at least a 10-year time span and, in recent model year vehicles, almost always contains coding that identifies the make, series, model year, and other characteristics of each vehicle.

Vehicle Series - A name denoting a family of vehicles, within a make, with the same wheelbase and a degree of commonality in construction such as body, chassis, etc.

Youthful Operator - For the purposes of this report, all males (married or single) under 25 years of age and all unmarried females under 25 years of age.

Appendix D
Vehicle Series Designations

Part A: Passenger Cars

Make and Model		2-Door Model	4-Door Model	Station Wagon	Sports/ Specialty
Alfa Romeo	GTV6				S
	Spider Veloce				S
American	Eagle		M	M	
Audi	4000	M	M		
	5000*-4 Dr. & S.W.				M
	GT Coupe*	M			
	Quattro*				S
BMW	318i/325e*				M
	528e/533i				M
	633 CSi				M
	733i				L
Buick	Century	M	M	M*	
	Electra	L	L	L	
	Le Sabre	L	L		
	Regal	M	M		
	Riviera				L
	Riviera Convertible				L
	Skyhawk	M	M	M**	
	Skylark	M	M		
Cadillac	Brougham-2 Dr. & 4 Dr.				L
	Cimarron		M		
	De Ville-2 Dr. & 4 Dr.				L
	Eldorado				L
	Eldorado Convertible*				L
	Seville				L
Chevrolet	Camaro				M
	Caprice	L	L	L	
	Cavalier	M	M	M	
	Cavalier Convertible**				M
	Celebrity	M	M	M*	
	Chevette	S	S		
	Citation	M	M		
	Corvette*				S
	Impala		L		
	Monte Carlo	M			
Chrysler	E Class**		M		
	Laser*	S			
	Le Baron	M	M	M	
	Le Baron Convertible		M		
	New Yorker**		M		
	New Yorker 5th Avenue		L		

(See footnotes on page 27)

Appendix D
Vehicle Series Designations

Part A: Passenger Cars

Make and Model		2-Door Model	4-Door Model	Station Wagon	Sports/ Specialty
Dodge	400/600	M	M**		
	600 Convertible				M
	Aries	M	M	M	
	Caravan*			L	
	Colt/Colt Vista	S	S	M*	
	Conquest*	S			
	Daytona*	S			
	Diplomat		L		
	Omni/Charger	S	S		
Fiat	Spider 2000				S
	X 1/9				S
Ford	Crown Victoria	L	L	L	
	Escort	S	S	S	
	EXP				S
	LTD**		M	M	
	Mustang				M
	Mustang Convertible**				M
	Tempo*	M	M		
	Thunderbird**	M			
Honda	Accord	S	S		
	Civic*	S	S	S	
	Civic CRX*				S
	Prelude**	S			
Isuzu	Impulse**	S			
	T-Car/I-Mark	S	S		
Jaguar	XJ6				L
	XJS				M
Lincoln	Continental				M
	Mark VII*				M
	Town Car				L
Mazda	626**	S	S		
	GLC	S	S	S	
	RX-7				S
Mercedes Benz	190D/E*				M
	300CD				M
	300D				L
	300SD/380SE				L
	300TD				L
	380SEC/500SEC				L
	380SEL/500SEL				L
	380SL Coupe				S

(See footnotes on page 27)

Appendix D
Vehicle Series Designations

Part A: Passenger Cars

Make and Model		2-Door Model	4-Door Model	Station Wagon	Sports/ Specialty
Mercury	Capri				M
	Cougar**	M			
	Grand Marquis	L	L	L	
	Lynx	S	S	S	
	Marquis**		M	M	
	Topaz*	M	M		
Mitsubishi**	Cordia	S			
	Starion	S			
	Tredia		S		
Nissan	200 SX*	S			
	300 ZX*				S
	300 ZX 2 + 2*				S
	Maxima		M	M	
	Pulsar**	S	S		
	Sentra	S	S	S	
	Stanza	S	S		
Oldsmobile	Ciera	M	M		
	Custom Cruiser			L	
	Cutlass	M	M	M*	
	Delta 88	L	L		
	Firenza	M	M	M**	
	Ninety Eight	L	L		
	Omega	M	M		
	Toronado				L
Peugeot	504/505		M	L	
	604				L
Plymouth	Colt/Colt Vista	S	S	M*	
	Conquest*	S			
	Gran Fury		L		
	Horizon/Turismo	S	S		
	Reliant	M	M	M	
	Voyager*			L	
Pontiac	1000	S	S		
	2000	M	M	M	
	2000 Convertible**				M
	6000	M	M	M*	
	Bonneville		M		
	Fiero*				S
	Firebird				M
	Grand Prix	M			
	Parisienne*		L	L	
	Phoenix	M	M		

(See footnotes on page 27)

Appendix D
Vehicle Series Designations

Part A: Passenger Cars

Make and Model		2-Door Model	4-Door Model	Station Wagon	Sports/ Specialty
Porsche	911 Cabriolet*				S
	911 Coupe				S
	928 Coupe				S
	944 Coupe**				S
Renault	18i/Sportwagon			S	
	Alliance**	S	S		
	Encore*	S	S		
	Fuego	S			
Saab	900	S	S		
Subaru	DL/GL	S	S	S	
	GL 4WD	S*	S*	S	
	Hatchback	S			
	Hatchback 4WD	S			
Toyota	Camry**		M		
	Celica	S			
	Celica Supra				M
	Corolla*	S	S		
	Cressida		M	M	
	Starlet	S			
	Tercel	S**	S**	S*	
	Tercel 4WD**			S	
	Van Wagon*			S	
Volkswagen	Jetta	S	S		
	Quantum		M	M	
	Rabbit	S	S		
	Rabbit Convertible				S
	Scirocco	S			
	Vanagon			S	
Volvo	240	M	M	M	
	760**				M

S - Small
M - Midsize
L - Large

** 1983 and 1984 Models Only
* 1984 Models Only

Appendix D
Vehicle Series Designations

Part B: Vans, Pickups, and Utility Vehicles

Vehicle Class	Make	Series
Vans	Chevrolet	G10 Chevyvan (1/2T) G20 Chevyvan (3/4T) G10 Sportvan (1/2T) G20 Sportvan (3/4T)
	Dodge	B150 (1/2T) B250 (3/4T) Ram*
	Ford	E-150 Club Wagon (1/2-3/4T) E-250 Club Wagon (3/4T) E-150 Econoline (1/2-3/4T) E-250 Econoline (3/4T)
	GMC	G1500 Rally Wagon (1/2T) G2500 Rally Wagon (3/4T) G1500 Vandura (1/2T) G2500 Vandura (3/4T)
Pickups	Chevrolet	C10/K10 (1/2T) C20/K20 (3/4T) El Camino S10
	Dodge	D-50 D150/W150 (1/2T) D250/W250 (3/4T) Rampage
	Ford	Courier Courier Long Bed F-150 (1/2-3/4T) F-250 (3/4T) Ranger**
	GMC	Caballero C1500/K1500 (1/2T) C2500/K2500 (3/4T) S15
	Isuzu	Long Bed Standard Bed
	Jeep/AMC	J10 (1/2T) J20 (1/2-3/4T) Scrambler
	Mazda	Long Bed Standard Bed
Pickups (cont'd)	Mitsubishi	Pickup**
	Nissan	King Cab Standard Bed Stretch
	Subaru	Brat
	Toyota	Long Bed (1/2T) Long Bed (3/4T) Standard Bed Xtra Cab*
Utility Vehicles	Chevrolet	C10/K10 Suburban (1/2T) C20/K20 Suburban (3/4T) C10/K10 Blazer (1/2T) S10 Blazer**
	Dodge	AD150/AW150 Ramcharger (1/2T)
	Ford	Bronco Bronco II*
	GMC	C1500/K1500 Suburban (1/2T) C2500/K2500 Suburban (3/4T) C1500/K1500 Jimmy (1/2T) S15 Jimmy**
	Isuzu	Trooper II*
	Jeep/AMC	Cherokee CJ-7 Grand Wagoneer* Wagoneer
	Mitsubishi	Montero**
	Toyota	Land Cruiser S/W

** 1983 and 1984 Models Only
* 1984 Models Only

Models contributing less than 100 insured vehicle years of exposure are not listed.

List of Publications

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R73-2 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1973 Models,* March 1974.

R73-3 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1973 Models During Their First Two years,* December 1974.

R73-4 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1973 Models During Their First Three Years,* December 1975.

R74-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1974 Models,* May 1974.

R74-2 *Automobile Insurance Losses, Collision Coverages; Variations by Make and Series, 1974 Models During Their First Year,* December 1974.

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R76-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1976 Models,* June 1976.

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R77-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1977 Models,* June 1977.

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R78-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1978 Models,* June 1978.

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R80-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1980 Models,* June 1980.

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R82-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1982 Models,* July 1982.

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R83-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1983 Models,* June 1983.

R83-2 *Insurance Losses, Collision Coverages; Passenger Cars, Vans, Pickups, and Utility Vehicles; 1983 Models During Their First Year, 1982 Models During Their First Two Years, 1981 Models During Their First Three Years,* January 1984.

R84-1 *Automobile Insurance Losses, Collision Coverages; Initial Results for 1984 Models,* June 1984.

R84-2 *Insurance Losses, Collision Coverages; Passenger Vehicles, Vans, Pickups, and Utility Vehicles; 1984 Models During Their First Year, 1983 Models During Their First Two Years, 1982 Models During Their First Three Years,* January 1985.

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V79-2 *Automobile Insurance Losses, Personal Injury Protection Coverages; Claim Frequency Results by Size of Claim for 1977, 1978, and 1979 Vans, Pickup Trucks, and Utility Vehicles,* October 1980.

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A-5 *Automobile Insurance Losses, Collision Coverages; Relationships Between Losses and Vehicle Body Style, 1974 and 1975 Models,* December 1975.

A-6 *Automobile Insurance Losses, Collision Coverages; An Investigation of Relationships Between Losses and Engine Specifications, Using 1973 Models,* June 1976.

A-7 *Automobile Insurance Losses, Collision Coverages; Annual Increases and Seasonal Variations 1972, 1973, 1974 and 1975 Models,* June 1976.

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A-9 *Automobile Insurance Losses, Collision Coverages; A Comparison of Collision Claim Size Distributions for 1974, 1975, and 1976 Models,* November 1977.

A-10 *Automobile Insurance Losses, Injury Coverages; Comparisons of Claim Frequencies of Volkswagen Rabbits with Automatic and Manual Seat Belts, 1975, 1976, and 1977 Models,* June 1979.

A-11 *Automobile Insurance Losses, Collision Coverages; The Consistency of the Loss Experience of Specific Vehicles Produced in Several Years, 1975 to 1978 Models,* June 1979.

A-12 *Automobile Insurance Losses, Collision Coverages; An Assessment of the Effects of the Federal Safety Bumper Standard on the Losses for 1972 Through 1978 Models,* June 1980.

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A-14 *Automobile Insurance Losses, Personal Injury Protection and Collision Coverages; Comparisons of the Loss Experience of Two- and Four-Door Cars, 1978, 1979, and 1980 Models,* June 1981.

A-15 *Automobile Insurance Losses, Personal Injury Protection and Collision Coverages; Relationships Between Injury and Collision Losses and Engine Options for Selected 1977-1979 Compact Cars,* June 1981.

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A-20 *Insurance Losses, Collision Coverages, A Comparison of the Collision Loss Experience of Subaru Models with 5 and 2.5 MPH Bumpers,* April 1983.

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